

Amendments to the Claims

Please replace all prior listings of the claims with the following listing of claims:

1. (Original) A cylinder head assembly comprising a cylinder head having an inlet passage and an outlet passage for communication, in use, with a cylinder, and at least one rotatably mounted shaft member interposed between the inlet and outlet passages and the cylinder, the shaft member(s) having passage means to allow an ingress of air mixture from the inlet passage to the cylinder at a first desired rotational position, and to allow an egress of combusted gases from the cylinder through the outlet passage at a second desired rotational position and to prevent the air or combusted gases from entering or exiting the cylinder at a third desired rotational position.
2. (Original) A cylinder head assembly according to claim 1, in which there are two shaft members, one cooperating with the inlet passage and one with the outlet passage.
3. (Original) A cylinder head assembly as claimed in claim 2, in which the shaft members are coupled, in use, to a crankshaft with means for independently controlling or adjusting the speed of rotation of said shaft members.
4. (Original) A cylinder head assembly as claimed in claim 2, in which the shaft members are driven independently of the crankshaft, and of each other, with means for individually controlling or adjusting the speed of rotation of said shaft members.
5. (Currently amended) A cylinder head assembly according to ~~any preceding~~ claim 1, in which the shaft member or each shaft member is substantially solid.
6. (Original) A cylinder head assembly according to claim 5, in which the passage means comprises a recess in the shaft member or a respective recess in each of the shaft members.

7. (Original) A cylinder head assembly according to claim 2, in which each shaft member is hollow; each shaft member having at least one aperture located around a portion of its circumference, wherein the inlet shaft member allows an ingress of air/fuel mixture from the inlet shaft member to enter said cylinder when the aperture in the inlet shaft is presented to the cylinder, and the outlet shaft member allows an egress of combusted gases to exit the cylinder when the aperture in the outlet shaft member is presented to the cylinder.
8. (Original) A cylinder head assembly according to claim 7, in which each shaft member is provided with an inner hollow tube member rotatably mounted within said shaft member; each inner tube member having at least one aperture located around a portion of its circumference; rotation of said inner tube member within the respective hollow shaft members providing a variable size effective aperture, which allows a variable ingress of combustion air to enter said cylinder through the effective aperture in the inlet shaft member, and allows a variable egress of combusted gases from the cylinder to exit through the effective aperture in the outlet shaft member.
9. (Original) A cylinder head assembly according to claim 8, in which the speed of rotation of the inner and outer tube members are such that the effective aperture maximises or restricts the rate of ingress of air, or egress of exhaust gases, through the respective inner tube members.
10. (Currently amended) A cylinder head assembly as claimed in claim 8 ~~or claim 9~~, in which the inner tube members are coupled, in use, to a crankshaft with means for independently controlling or adjusting the speed of rotation of said tube members.
11. (Currently amended) A cylinder head assembly as claimed in claim 8 ~~or claim 9~~, in which the tube members are driven independently of the crankshaft, and of each other, with means for individually controlling or adjusting the speed of rotation of said tube members.

12. (Currently amended) A cylinder head assembly according to ~~any preceding~~ claim 1, in which the shaft member(s) extend over a number of cylinders, the shaft member(s) having a corresponding number of passage means.

13. (Currently amended) A cylinder head assembly according to ~~any preceding~~ claim 1, in which the shaft member(s) have gas tight seal assemblies.

14. (Original) A method of allowing an ingress and egress of combustion air and combusted gases from a cylinder comprising the steps of:

presenting a passage means within a shaft member to an inlet passage;

retracting of a piston within a cylinder to allow an induction of air from the inlet passage through said passage means into the cylinder;

rotating the shaft member to prevent any leakage of air upon a compression of the air in the cylinder by the piston;

combusting air/fuel mixture in the cylinder to cause said piston to retract;

extending the piston in the cylinder;

presenting passage means to the cylinder and an outlet passage to allow an egress of combusted gases; and

repeating the above steps.

15. (Original) A method according to claim 14, in which the same passage means is used for induction and egress.

16. (Original) A method according to claim 14, in which the passage means is formed by an aperture in at least one hollow shaft, and the method further includes the step of varying the effective size of the aperture to restrict or maximise the amount of fluid flow through the aperture.